The Bulletins are published weekly throughout the school year (thirty issues) to aid teachers and students in keeping abreast of geography behind current news events.

GEOGRAPHIC SCHOOL BULLETINS

of

The National Geographic Society

WASHINGTON 6, D. C.

The National Geographic Society is a non-profit educational and scientific Society established for the increase of geographic knowledge and its popular diffusion.

VOLUME XXIX January 29, 1951 NUMBER 16

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CLIFTON ADAMS

SITTING ON A SHEEPSKIN, A NAVAJO WOMAN SPINS WOOL (Bulletin No. 4) FOR A BLANKET

Her wood-framed, mud-domed house, called a hogan, rises from the dry reaches of the Navajo Indian Reservation in Arizona. A hole at the top lets out smoke. Coyote skins hang beside the doorway.

Bulletin No. 1, January 29, 1951

Saar Joins List of Europe's Tiny Countries

THE provisional State of the Saar, which became an "almost" independent nation as of January 1, 1951, is one-third larger in area than the post-World War I Saar Territory.

Even so, the new state, occupying what for centuries has been an area of contention between France and Germany because of its huge coal reserves, is somewhat smaller than Rhode Island, smallest of the United States. In Europe, only such miniature states as Andorra, Liechtenstein, San Marino, and Monaco are smaller.

Plebiscite in 1935

The Saar Territory (map, next page) was set up by the Treaty of Versailles in 1919. By that treaty France recovered Alsace-Lorraine, which had been taken by Germany in 1871. The mining and industrial heart of the Saar Basin to the north, however, was made a separate entity to be governed for 15 years by a commission of five Europeans under the League of Nations. The designated area covered 738 square miles.

In January, 1935, with German nationalism on the rise, the Saar Territory made headlines when a plebiscite conducted under the terms of the Versailles Treaty showed a nine-to-one popular preference for rejoining Germany.

Thus this political sore spot of ancient and modern times was counted as part of Germany's western fringe for ten years, until after VE day of World War II. As provided by the 1919 treaty, Germany bought back its coal mines, which had been given to France after World War I in payment for German damage to French mines.

Falling within the French Zone of western Germany, the Saar Basin in late 1946 was once more established as a special entity. To the area of the 1920-35 Saar Territory the French added a neck of land which extends to the Luxembourg boundary. Thus today's State of the Saar covers close to 1,000 square miles and does away with more than half the French-German border between the Rhine and Luxembourg.

Voted French Ties in 1947

An average of 900 people live on each of the Saar's square miles, a density greater than Rhode Island's, and one of the greatest in Europe. About 135,000 live in the capital city, Saarbrücken. German speech, culture, and traditions predominate.

Nevertheless, in 1947, when the Saarlanders elected 50 citizens to compose their diet (parliament), they voted overwhelmingly to join in economic union with France. Headed by a premier, the diet controls internal affairs. The state looks to France for military protection and the handling of its foreign relations.

Saar coal reserves are estimated roundly at nine billion tons, and the mines currently produce about 15 million tons a year. If 1950 Paris agree-

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FEW ROADS CROSS RUSSIA'S MIGHTY CAUCASUS RANGE. HERE ONLY MOUNTAIN CLIMBERS AND SHEEP ARE AT HOME (Bulletins No. 3 and 4)

Bulletin No. 2, January 29, 1951

Harpers Ferry To Become National Monument

AFTER nearly a century of comparative quiet, little Harpers Ferry, West Virginia, may soon be welcoming a tourist influx if it is accepted as the latest addition to the United States list of national monuments.

A citizens committee, appointed by West Virginia's governor, is formulating plans to acquire at Harpers Ferry some 1,400 historic acres which would be presented to the Department of Interior. Officially the area would be a national site commemorating Civil War battlefields, but it is better known as the place where that fierce old patriarch, John Brown, made his famous raid.

Rivers Meet to Breach Mountains

Brown's capture of the federal arsenal property at Harpers Ferry (then in Virginia) is probably the most colorful incident in the town's adventurous history. However, the proposed site, one of the most scenic in the east, can link its claim to national interest with such great names as George Washington, Thomas Jefferson, Robert E. Lee, "Jeb" Stuart, and "Stonewall" Jackson.

Harpers Ferry occupies the tip of West Virginia's eastern panhandle, a wedge of rocky land thrust between Maryland and Virginia. Here the Shenandoah and Potomac rivers meet to force a breach in the Blue Ridge Mountains and escape toward the sea. Dominating the scene are high ridges and rugged, forested hills.

Jefferson visited the vicinity many times and captured an eagle there which he sent to the King of Spain. Perched upon a balanced rock high above Harpers Ferry, he once wrote, "This scene is worth a voyage across the Atlantic." Poet Carl Sandburg later described it as "a meeting place of winds and waters, rocks and ranges."

The town owes its name to Robert Harper, who settled there about 1747 and later operated a ferry service. The river-torn gap in the Blue Ridge was a natural east-west route for travelers. George Washington was a member of a party which is believed to have made the original survey of the area. His familiarity with Harpers Ferry prompted him to recommend it as the site of the nation's second arsenal, built in 1796.

Twenty-one Men in Arsenal Raid

The arsenal, and a later addition known as the Hall Rifle Works, turned out the first breech-loading guns made in the United States. By 1861, the government had spent nearly $2,000,000 on its Harpers Ferry stronghold. The town boomed with a population of some 3,000.

Brown's raid in 1859 has fascinated generations of history readers by its sheer audacity. With 21 followers he seized and held the arsenal firehouse for two days, meanwhile expecting a slave uprising in support of his abolitionist cause. No help materialized. Aroused townspeople and militia bottled up the raiders until Colonel Robert E. Lee and Lieutenant J.E.B. Stuart arrived from Washington with a force of Marines. Brown and six surviving followers were captured and later hanged for treason.

During the Civil War, Harpers Ferry changed hands more than half

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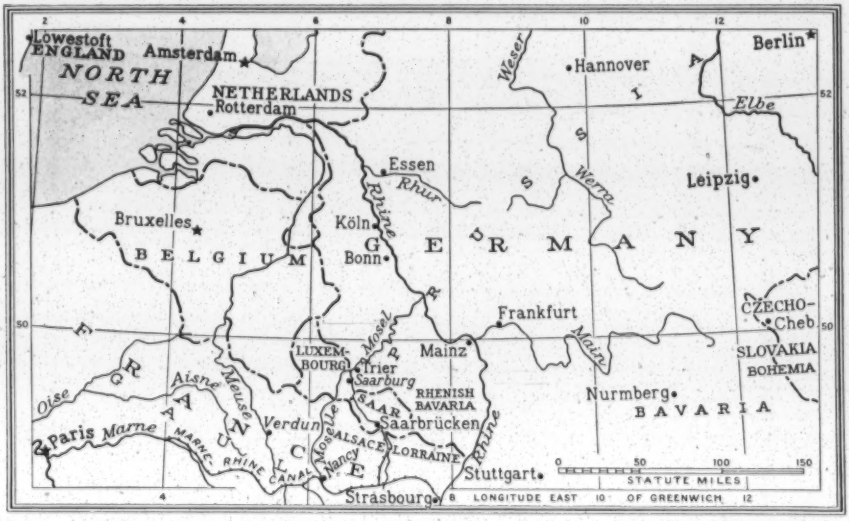
ments are upheld by the German peace settlement, still unwritten nearly six years after the war, Saar coal output will be available to France for the next 50 years. The French will pay stated royalties per ton to the Saar government. Coal-poor France will use the high-grade fuel largely to melt its own Lorraine iron ore.

Aside from the Saar's concentration of unsightly mine pit heads, steel mills, foundries, and factories, it is a region of river landscapes, small lakes, and rolling, wooded hills rising to 1,800 feet.

Like the new state itself, a number of tiny changes elsewhere in Germany's western borders with the Netherlands, Belgium, Luxembourg, and France are subject to confirmation by the unwritten peace treaty. In the new border between Germany and the Netherlands, for example, there are 19 minor corrections totaling about 25 square miles of land.

NOTE: The Saar is shown on the National Geographic Society's map of Western Europe. Write the Society's headquarters, Washington 6, D. C., for a price list of maps.

For further information, see "What Is the Saar?" in the *National Geographic Magazine* for February, 1935.



DRAWN BY NEWMAN BUMSTEAD

ON THE FRENCH-GERMAN BORDER, THE SAAR MAKES UP IN POSITION WHAT IT LACKS IN SIZE

In western Europe's economy the little state is important; its coal mines and steel mills have been a bone of contention between France and Germany for generations. Away from the smoking cities, the Saar's valleys and heights are covered by green forests and pleasant farmlands.

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Bulletin No. 3, January 29, 1951

1950 World Engineering Record Outstanding

IN spite of international tensions and armed conflict (sometimes because of them), the world's 1950 construction record was imposing.

A gap in India's rail transport was filled by the rushed-through Assam-to-Calcutta line. Canada started construction on a 360-mile route to bring much-needed iron ore from the rich ranges of the Ungava-Labrador region to the St. Lawrence estuary. Mexico opened a rail link between isolated Yucatan (illustration, next page) and the rest of the country.

Highways Match Railroads

Brazil established a rail link with inland Goiânia, provisional capital of the fast-growing state of Goias, where a new federal district is planned. Portuguese Angola, in southwest Africa, encouraged colonization by adding nearly 60 miles of track to its southern Mossamedes line.

In Yugoslavia, the year saw work advanced or completed on four important railway links—strategic in view of current European strains, but long planned for normal transport to and from Adriatic ports.

Yugoslavia's Belgrade (Beograd)-to-Zagreb speedway, the largest undertaking of the nation's first five-year plan, was opened. A three-year "emergency highway plan" was scheduled for completion in the Soviet Union, with special emphasis on improved roads for the Caucasus (illustration, inside cover), Ukraine, northeast Siberia, and the Outer Mongolia region.

An extension from the Alaskan Highway linked for the first time the famous Yukon mining districts of Canada and Alaska with more populous areas. Work continued on many local Latin American roads, as well as on the far-flung Pan American Highway, which still lacks a number of difficult links. Mexico celebrated—with appropriate racing contests—completion of its more-than 2,000-mile stretch from Texas to Guatemala.

Tunnels, Airfields, Pipelines, Harbors

Uncle Sam's 1950 highway report lists a multiple-lane, high-speed, eastern addition of 100 miles to the Pennsylvania Turnpike between Philadelphia and Pittsburgh; a new 60-miles-an-hour toll road through New Hampshire; the first "sample" section of eastern New Jersey's Route 4 Parkway; and four additional sections in New York City's network.

The Brooklyn-Battery Tunnel under the mouth of the East River was completed. In Washington, D. C., the Dupont Circle underpass for both streetcars and automobiles was put into commission.

Among new airfields opened last year were the bomber base at Limestone, Maine, the Friendship International Airport at Baltimore, Maryland, and the British tourist-catering field at Livingstone, Northern Rhodesia, near spectacular Victoria Falls.

A more-than 1,000-mile oil pipeline was finished in the Middle East, linking Persian Gulf sources of Saudi Arabia with Mediterranean tankers at Sidon, Lebanon. Canada put into use its long interprovincial oil line, reaching from Alberta to the Great Lakes.

Oil pipes were stretched between Utah and Washington State, and

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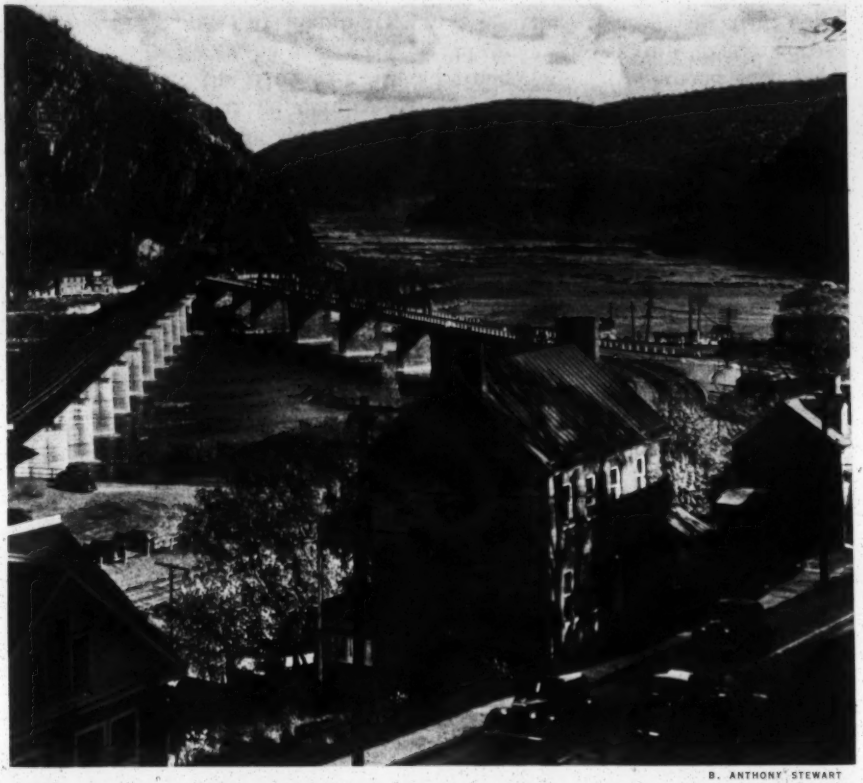
a dozen times. Its installations were demolished by federal troops when forced to retreat early in the war. In the most famous engagement, in 1862, the town and some 12,500 Union soldiers were captured by Stonewall Jackson on his way to join Lee at near-by Antietam in Maryland.

After the war, Harpers Ferry never regained its former importance, even though located on the Baltimore and Ohio Railroad and the Chesapeake and Ohio Canal. The arsenal was never rebuilt. Floods periodically ravaged the town, the worst occurring in 1870, when 42 lives were lost. More recently, a 1936 flood destroyed two highway bridges.

Today Harpers Ferry counts about 700 people and some of its historic buildings are unoccupied. But the picturesque beauty still is unmarred, and on the ridges above the town may be found traces of crumbling earthworks and rifle pits hallowed by men of the Blue and the Gray who fought and died there.

NOTE: Harpers Ferry appears on the Society's map of the Southeastern United States.

For further information, see "Down the Potomac by Canoe," in the *National Geographic Magazine* for August, 1948*; "Potomac, River of Destiny," July, 1945*; "West Virginia: Treasure Chest of Industry," August, 1940; and "The Travels of George Washington," January, 1932. *(Issues marked with an asterisk are included on a special list of Magazines available to teachers in packets of ten for $1.00; issues unmarked are 50¢ a copy.)*



B. ANTHONY STEWART

HOUSES CLING TO "THE POINT" AT HARPERS FERRY, WEST VIRGINIA. BRIDGES LEAD TO MARYLAND; VIRGINIA IN DISTANCE

Bulletin No. 4, January 29, 1951

Uncle Sam, Like Jason, Seeks "Golden Fleece"

AS THE United States begins partial mobilization, Uncle Sam is entering the world market in an expensive quest for wool. Today the warm, furry fiber is almost as truly the "golden fleece" as in the legendary times when Jason and the Argonauts adventured in its quest.

Prices for this vital commodity have soared to the highest peak in history, partly because the nation's stockpile of wool is not sufficient to meet the present emergency.

Home Flocks Supply One-fourth of Demand

Although practically every nation grows some wool, most of it comes from Southern Hemisphere countries—Australia, Argentina, New Zealand, South Africa, and Uruguay. Australia, the world's leader, produces about one-fourth of the supply. In the Northern Hemisphere, the United States (illustration, cover), Great Britain, Spain, France, Italy, and countries of north Africa (illustration, next page) raised large quantities.

However, the United States demands more wool than it produces. The nation normally uses about 800,000,000 pounds a year; United States sheep yield little more than a fourth of that amount. At Boston, long a center of the wool trade, prices recently have risen to as much as $3.00 a pound for certain good grades of cleaned wool.

Such synthetic fibers as nylon have made inroads, but for many uses wool is still supreme. In some respects modern man is nearly as dependent upon fleece from his sheep as were the ancients. Archeologists have found evidence that there were domesticated sheep in the Stone Age. The origin of weaving is lost in antiquity, but Babylonians and Egyptians were skilled at wool working, and the Phoenicians made and sold wool clothing throughout the Mediterranean world.

Our term "spinster" for an unmarried woman is a legacy from the wool trade of the Middle Ages, when most of the weaving in the great castles was done by maiden "gentlewomen." John Kay's invention of the fly shuttle, patented in 1733, was the first of a series of industrial developments which revolutionized the wool trade. By 1870 machines had displaced most of the handworkers.

Britain's Lord Chancellor Sits on "Woolsack"

Various animals, such as the alpaca, llama, goat, and Angora rabbit, yield wool, but by far the largest percentage comes from sheep. The cradle of the modern sheep-breeding industry was Spain, homeland of the famous Merino. These sheep are the ancestors of most of the 200 breeds recognized today. Ferdinand and Isabella, sovereigns of Spain in the time of Columbus, considered the Merino so valuable that they put to death anyone attempting to export one.

For centuries wool trading and manufacture have been of great importance in the British Isles. Symbolizing this fact, Queen Elizabeth's chancellor in the House of Lords customarily sat upon a cloth-covered sack of wool. To this day the British lord chancellor's chair is known as the "woolsack."

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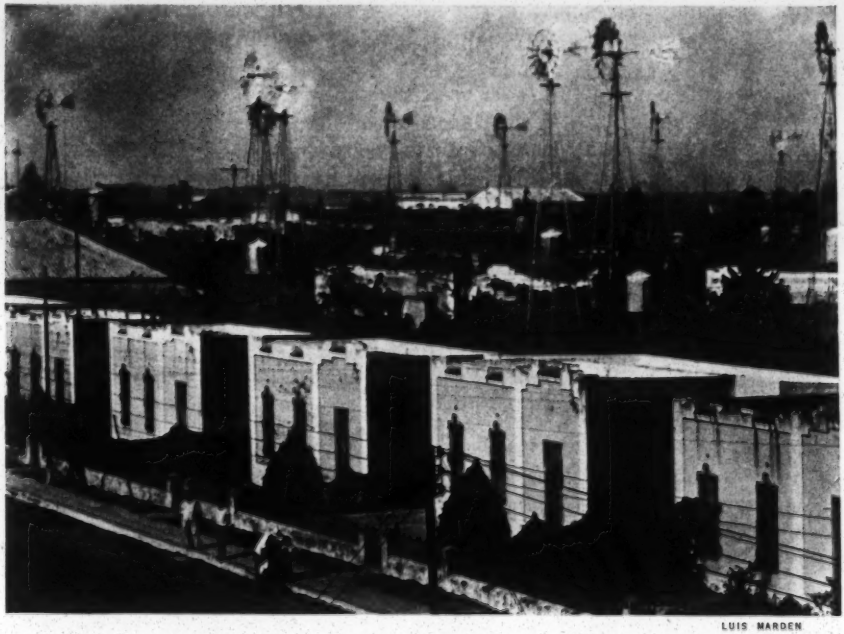
still another line was started between Illinois and Ohio. Additional natural-gas pipes, too, reached New York City and other New York State centers from the Texas Rio Grande valley.

Chalna and Chittagong in East Pakistan improved their ports; in Baltimore, harbor facilities are being expanded for expected iron shipments from Venezuela. Boston, Massachusetts, dedicated a $5,000,000 marine terminal. Southampton, England, opened a modern dockside terminal. On Africa's west coast, Monrovia, Liberia; Abidjan, Ivory Coast; Freetown, Sierra Leone; and Bathurst, Gambia, made shipping improvements.

New England hailed the opening of another hydroelectric plant (at Wilder, Vermont) in its Connecticut River program. At New Orleans, a new spillway was opened to protect the city from Mississippi floods. California completed its $62,000,000 Feather River project. The last of a series of Idaho's postwar power plants along the Snake River went to work.

Quebec and Ontario last year began drawing on power from two huge hydroelectric developments. Venezuela pushed large-scale irrigation projects. Pakistan started its giant Kotri Dam to water dry Sind Province. Ceylon is reported at work on its multiple Gal-Oya basin program. High in the Alps, France completed another in its series of power projects to modernize French industry. And Sweden put into commission one plant in Angermanland Province, and part of another near the Arctic Circle.



LUIS MARDEN

A NEW LINE LINKS MERIDA AND ITS FOREST OF WINDMILLS WITH MEXICO'S MAIN RAIL NETWORK

A 1950 engineering feat tied the remote capital of Yucatan with the rest of the republic. Because of its isolation, the city had retained much of its early Spanish atmosphere. Tangled jungles, swamps, and rough limestone ridges barred travel. On the riverless peninsula there is almost no surface water. The thick-walled Moorish-style houses are supplied by towering windmills which pump water from wells—some man-dug, some natural water holes.

Bulletin No. 5, January 29, 1951

Sikkim Guards India's Himalaya Frontier

INDIA has forged a new link in the defenses of its vast northern frontier by assuming the role of protector for the little semi-independent state of Sikkim, a mountain-girt region of tropic flowers and eternal snows in the heart of the eastern Himalayas.

By a recent treaty the Maharajah of Sikkim has given India full authority to utilize his country for military purposes. Although not much larger than the state of Delaware, Sikkim occupies a highly strategic buffer position against the Chinese communists now invading Tibet.

Nature in Variety of Moods

The maharajah's relatively tiny domain shares frontiers with Nepal, Tibet, India, and the state of Bhutan, which is also an Indian protectorate. For centuries the Himalaya mountain passes of Sikkim have been a gateway to Tibet; caravans from the Tibet highlands have worn an ancient trade route across Sikkim territory to Kalimpong and Darjeeling in India.

Nature presents a variety of moods in Sikkim. The country is a jumbled mass of gorges and precipitous slopes. In the narrow valleys the climate is tropical, with a profusion of ferns and flowering plants. Climbing the towering, forested mountains, one enters a temperate zone. Farther up, above timber line, are barren wastes capped by glacial peaks of the world's mightiest mountains.

Altitudes in Sikkim range from a low of some 400 feet above sea level to the 28,146-foot eminence of Kanchenjunga, third-highest mountain in the world, which is located on the Nepal border. The extreme differences in rainfall are remarkable for so small a country; annual precipitation in the south is over 130 inches, while some of the more sheltered northern valleys get less than 20 inches.

In this land of abrupt contrasts live about 123,000 people, most of whom eke out a living growing corn and millet on the mountainsides and rice crops on the terraced slopes at lower elevations. Their capital is Gangtok, a collection of wooden houses clinging in tiers to a mountain shoulder 4,000 feet high.

India Takes over British Rights

Sikkim legend credits a Buddhist lama from Tibet as the founder of the country. Most of the present inhabitants are Nepalese; others belong to the Bhutia and Lepcha hill tribes. A variety of Tibetan dialects are spoken. Buddhism is the state religion.

In setting up a protectorate over Sikkim, India is reaffirming a precedent established by the British nearly a century ago. English forces entered the little country in 1860 because it had persisted in kidnapping British subjects, who were sold into slavery. The maharajah was forced to sign a treaty in 1861 which made Sikkim a protectorate of the crown.

For many years Great Britain maintained a *dewan*, or political officer, in Sikkim, who had considerable power over the affairs of the state. A similar representative was sent to Gangtok by India in 1949, and the recent

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Australia entered the wool-growing industry in 1804, starting with Merinos from the royal flock of King George III of England. Today about 100,000,000 sheep, and their wool, provide jobs for nearly one-third of Australia's people. Sydney, capital of the state of New South Wales, is center of the wool trade.

Before World War II, the United States sheep census was about 58,000,000. The sheep population has now dwindled to about 30,000,000. Two factors are believed largely responsible for this decrease: high meat prices, which have caused the slaughter of large numbers of animals, and the rising cost of maintaining the flocks. Texas produces more wool than any of the other states.

NOTE: For additional information, see "Arizona Sheep Trek" (with 16 color photographs), in the *National Geographic Magazine* for April, 1950; "Sheep Airlift in New Guinea," December, 1949; "Grass Makes Wyoming Fat," August, 1945*; "Beyond Australia's Cities," December, 1936; and "The Indispensable Sheep," April, 1928.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, January 30, 1950, "Sheep Airlift in Bird-of-Paradise Land."

GILBERT GROSVENOR

IN THE CROWDED MARKET PLACE AT FÈS, BUYERS BARGAIN FOR BUNDLES OF WOOL

Enveloped in flowing burnooses—typical costume of the hot lands of northern Africa—wool dealers display their wares in the market at Fès (Fez), trade center of northern Morocco. Buyers, attired in similar garments, inspect the fleecy bundles. Shorn from the sheep which, in millions, graze the sun-baked reaches of the French protectorate, wool is the basis of an industry which gives a living to thousands of Moroccans, as it does to the people of so many other wool-growing lands.

TEACHERS! Do you leaf aimlessly through your *National Geographic Magazines*, looking for that article on Greece, those color pictures of Guatemalan costumes? Save time. Order the Cumulative Index, 1899-1949 inclusive. $2.50.

treaty merely formalizes a relationship that has been in effect for some time.

NOTE: Sikkim may be located on the Society's map of India and Burma.

For additional information on this central Asia region, see "Peerless Nepal," in the *National Geographic Magazine* for January, 1950; "A Woman Paints the Tibetans," May, 1949; "Across Tibet from India to China," August, 1946*; "India Mosaic," April, 1946; "India—Yesterday, Today, and Tomorrow," October, 1943*; "Nepal, the Sequestered Kingdom," March, 1935; "Aerial Conquest of Everest," August, 1933; and "First Over the Roof of the World by Motor," March, 1932.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, December 11, 1950, "Nepal, Gurkha Land, Guards Doorway to India"; "Tibet Has Kept Its Isolation for Centuries," November 20, 1950; "Kashmir Floods Spare Wool-Producing Goats," October, 23, 1950; and "Men Again Challenge India's Killer Mountain," February 14, 1949.

JOHN CLAUDE WHITE

ON CEREMONIAL OCCASIONS, SIKKIM LAMAS WEAR "RUGENS," BEADED APRONS OF HUMAN BONES

Balloons 20 miles high have collected strong evidence that the sun is the source of cosmic rays. The National Geographic Society reported this recently in telling of joint research work in Canada's Hudson Bay region by the Society and the Bartol Research Foundation of Swarthmore, Pennsylvania. Project scientists found that sunspot eruptions were followed by increased cosmic-ray activity.